To: Hooper, Charles A.[Hooper.CharlesA@epa.gov]; Mahler, Tom[mahler.tom@epa.gov]
From: Monnig, Rob
Sent: Tue 12/20/2016 10:26:40 PM
Subject: RE: instruments at cave
field sheets.xlsx

Thanks Chuck. It's definitely good to be going through this now. I know from all the interior work at IFR, that holding probes for 1 minute counts gets tiring pretty fast. I would end up just laying the probe on the surface and checking for contamination every so often. Not ideal, but it saved my arms. It might be worth considering using some "bumpers" on the probes. Maybe taping pieces of cardboard to the non-sensitive edges of the probe.

I shared this with Tom already, but attached is a first cut of a wipe sampling field sheet.

Rob

From: Hooper, Charles A. [mailto:Hooper.CharlesA@epa.gov]
Sent: Tuesday, December 20, 2016 3:11 PM
To: Mahler, Tom <mahler.tom@epa.gov>
Cc: Monnig, Rob <rob.monnig@tetratech.com>
Subject: instruments at cave

I've been out here at the cave today and doing some surveying. Here are a couple of things of interest for us to keep in mind:

We have two 43-90 alpha probes. On most surfaces like the concrete floor and the shelves and metal cabinets the background runs around (1-9 CPM).

When I counted on a ceiling intake register I found about (70-80 CPM), unfortunately after I did that the counts stayed high even in known low background areas. So couple of lessons learned for the surveyors: Don't touch the surface of the probe on what's being surveyed, and don't turn the instrument upside down on a grate or vent or else radon decay product dust will contaminate the probe surface. The levels go down at the normal rate of about 30 min half-life with Pb214.

Oddly though, I'm getting few alpha counts on the 3030P (~3CPM alpha and 40CPM beta). Maybe because I'm not getting 100cm2 on the swipe because of the geometry. Then I swiped a

fan blade that had been running and it was only 3 CPM alpha and 81 CPM beta, again using the 3030P. But the 3030 had an alpha count of 30 CPM. So I think Tom mentioned there was a radon decay product discriminator for the 3030P but I'll have to investigate that tomorrow. Alpha count rate on the fan blade was about 60 CPM with the 43-90 probe (without touching the probe on the fan blade!).

The radon sniffer levels have been bouncing around 0-4 pCi/L but with +/- 5 pCi/L. Mark is also ordering some smaller Drierite tubes that work better for the radon sniffer on the Rad 7.

Also,

One of the 3030P (#1962) is being sent in for maintenance. This unit is having some high beta background counts on the order of 200 CPM and it's supposed to be 20-40 CPM. The tech at Ludlum wasn't sure why so it's getting sent in along with the 3030 that needs to be calibrated. Both are being expedited.